CLAIMS

What is claimed is:

1. In a telecommunications system in which a plurality of User Equipments (UEs) communicate with a common station via communication signals having a system frame format with at least one commonly used time slot (CUTS) per frame which is available for common use by the UEs for transmitting code identified signals for a specific uplink channel, where the UEs select a code identifier from a plurality of identifiers and where a UE transmission with a selected code identifier in a selected CUTS will fail if another UE transmits with the same code identifier in the same CUTS or if the UE transmission lacks sufficient power, a communication method comprising:

determining the number of successful and failed UE transmission in CUTSs per frame; and

adjusting one or more communication parameters in response to said determination.

2. The method of claim 1 wherein the number of successful and failed UE transmissions in CUTSs is determined for individual system frames further comprising:

broadcasting a parameter DP upon which the UEs determine an access rate for transmitting in CUTSs; and

adjusting DP in response to the individual system frame determinations.

3. The method of claim 2 wherein the specific channel is a Random Access

Channel (RACH), the common station comprises a radio network controller (RNC), one CUTS is provided per each system frame, eight code identifiers are provided as midambles for UE transmissions and the parameter DP is dynamic persistence or dynamic persistence level.

4. The method of claim 1 wherein the number of successful and failed EU transmissions in CUTSs is determined for multiple system frames spanning a selected time interval.

5. The method claim 4 further comprising:

broadcasting a power control parameter R to the UEs; and

adjusting said parameter R in response to said determination over the selected time interval whereby the UEs adjust their transmission power after receiving an adjusted value for R in accordance with that adjusted value.

6. The method of claim 5 wherein the specific channel is a Random Access Channel (RACH), eight code identifiers are provided as midambles for UE transmissions and the parameter R is a RACH constant.

7. The method of claim 5 wherein the system frame is 10 microseconds and the selected time interval is 1 second so that the determination is based upon 100 frames.

8. The method of claim 7 wherein the specific channel is a Random Access Channel (RACH), eight code identifiers are provided as midambles for UE transmissions and the parameter R is a RACH constant.

9. The method of claim 5 wherein the number of successful and failed UE transmissions in CUTSs is also determined for individual system frames further comprising:

broadcasting a parameter DP upon which the UEs determine an access rate for transmitting in CUTSs; and

adjusting DP in response to the individual system frame determinations.

10. The method of claim 9 wherein the specific channel is a Random Access Channel (RACH), eight code identifiers are provided as midambles for UE transmissions, the parameter R is a RACH constant and the parameter DP is dynamic persistence or dynamic persistence level.

11. The method of claim 9 wherein the system frame is 10 microseconds and the selected time interval is 1 second so that the determination is based upon 100 frames.

12. The method of claim 11 wherein the specific channel is a Random Access Channel (RACH), eight code identifiers are provided as midambles for UE transmissions,

the parameter R is a RACH constant and the parameter DP is dynamic persistence or dynamic persistence level.

13. The method of claim 4 wherein the specific channel is a Random Access Channel (RACH), further comprising:

broadcasting a parameter DP upon which the UEs determine an access rate for transmitting in CUTSs; and

adjusting DP in response to said determination over the selected time interval whereby the UEs adjust their access rate to CUTS after receiving an adjusted value for DP in accordance with that adjusted value.

14. The method of claim 13 wherein the system frame is 10 microseconds and the selected time interval is 1 second so that the determination is based upon 100 frames, eight code identifiers are provided as midambles for UE transmissions and the parameter DP is dynamic persistence or dynamic persistence level.

15. The method of claim 4 wherein the system frame is 10 microseconds, the selected time interval is 1 second, the common station comprises a radio network controller (RNC), eight code identifiers are provided as midambles for UE transmissions and the specific channel is a Random Access Channel (RACH).

16. The method claim 15 further comprising:

broadcasting a power control parameter RACH constant to the UEs;

adjusting said parameter RACH constant in response to said determination over the selected time interval whereby the UEs adjust their transmission power after receiving an adjusted value for RACH constant in accordance with that adjusted value;

broadcasting a parameter DP upon which the UEs determine an access rate for transmitting in CUTSs; and

adjusting DP in response to said determination over the selected time interval whereby the UEs adjust their access rate to CUTS after receiving an adjusted value for DP in accordance with that adjusted value.

17. A telecommunications system in which a plurality of User Equipments (UEs) communicate with a common station via communication signals having a system frame format with at least one commonly used time slot (CUTS) per frame which is available for common use by the UEs for transmitting code identified signals for a specific uplink channel, where the UEs select a code identifier from a plurality of identifiers and where a UE transmission with a selected code identifier in a selected CUTS will fail if another UE transmits with the same code identifier in the same CUTS or if the UE transmission lacks sufficient power, the system wherein the common station includes a memory for storing the number of successful and failed UE transmission in CUTSs per frame and processing circuitry which determines whether UE transmission in CUTSs succeed or fail, stores the

determination results as data in the memory and adjusts one or more communication parameters based on the data stored in said memory.

18. The system of claim 17 wherein the common station processing circuitry determines and stores the number of successful and failed UE transmissions in CUTSs for individual system frames and adjusts a parameter, upon which the UEs determine an access rate for transmitting in CUTSs, based on stored data reflecting the individual system frame determinations.

19. The system of claim 17 wherein the common station processing circuitry determines and stores the number of successful and failed UE transmissions in CUTSs for multiple system frames spanning a selected time interval and adjusts a parameter, upon which the UEs determine a power level for transmitting in CUTSs, based on stored data reflecting the determinations over the selected time interval.

20. The system of claim 19 wherein the common station includes a node b which is interfaced with a Radio Network Controller (RNC) where the node b has the processing circuitry which determines whether UE transmission in CUTSs succeed or fail and the RNC has the memory for storing the number of successful and failed UE transmission in CUTSs per frame and the processing circuitry which adjusts one or more communication parameters based on the data stored in said memory.